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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/716,337

11/18/2003

John McMillan

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ADVANTEDGE LAW GROUP, LLC
3301 NORTH UNIVERSITY AVE.
SUITE 200
PROVO, UT 84604

EXAMINER

HOANG, PHUONG N

ART UNIT

PAPER NUMBER

2194

MAIL DATE

DELIVERY MODE

09/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/716,337	Applicant(s) MCMILLAN ET AL.	
	Examiner PHUONG N. HOANG	Art Unit 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3 – 8, 10 - 15 are pending for examination.
2. In view of the Appeal Brief filed on 08/09/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3 - 8, 10 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et. al., “A Virtual Operating System” pages 495 – 502 in view of Curtis, US patent no. 6,615,277, and further in view of Krishman, US patent no. 6,141,698.**

5. **As to claim 1**, Hall teaches a computing architecture, comprising:

a base operating system (OS) (single real operating system, page 495 col. 3, page 496 col. 2); and

at least one virtual OS environment within the base OS (a single real operating system can support many virtual operating systems, p. 496 col. 2), the virtual OS environment having a file system (file systems, p. 497 col. 1 section 4) which is independent of the base OS (the virtual operating system is independent/parallel with existing real operation system, sections 4 and 5.2).

Hall does not explicitly teach operating system having a registry.

Curtis operating system having registry (col. 6 lines 5 – 35, col. 9 lines 30 - 40, col. 10 lines 20 - 40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hall and Curtis's system because Curtis's registry will maintain all information for operating system to keep track of all hardware and software information for the system.

Hall does not explicitly teach the step of wherein the computing machine is configured such that attempts to access the base OS file system and the base OS registry by an application under the virtual OS environment are redirected to the virtual OS file system and the virtual OS registry.

Krishma teaches a change made in the OS (inject dll, abstract, figures 2, 3, and 6), wherein the change does not affect the main OS or any other virtual OS environment (by inject dll not modifying the current code of any operating systems).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Hall, Curtis, and Krishma's system because Krishma's injecting dll to the virtual OS would run the code in the dll that change the execution to redirect to the virtual OS system, and no need to modify the code of the operating system, and therefore, it the maintenance of application is easier.

6. **As to claim 3**, Hall teaches at least one application (program, p. 496 col. 2 and 3) running under the virtual OS environment, and wherein the application shares one or more of the following with the base OS: networking information, user login rights, services, hardware information (hardware, p. 497 col. 1), and clipboard information.

7. **As to claim 4**, Krishma teaches a change made in the OS (inject dll, abstract, figures 2, 3, and 6), wherein the change does not affect the main OS or any other virtual OS environment (by inject dll not modifying the current code of any operating systems).

8. **As to claim 5**, Hall teaches wherein each virtual OS environment contains a group of installed applications (programs such as text editors and file systems, p. 497 section 4) that run independently of each another.

9. **As to claim 6**, Hall teaches one or more applications (programs portable to virtual OS so the system offer in parallel, p. 497 section 4) running under the base OS and each virtual OS environment, and wherein all of the applications run on a single OS desktop.

10. **As to claim 7**, see rejection for claim 4 above.

11. **As to claim 8**, this is the method claim of claim 1. See rejection for claim 1 above.

12. **As to claims 10**, Krishma teaches altering one or more application programming interfaces that access the base OS file system and registry directly and indirectly so as to redirect these accesses into the appropriate virtual file system and registry (modify the dll, abstract, figures 2, 3, and 6).

13. **As to claim 11**, Krishman teaches installing at least one application program under the virtual OS environment; and wherein attempts to access the base OS file system and registry locations are instead redirected to the virtual OS environment file system or registry (inject dll, abstract, figures 2, 3, and 6).

14. **As to claim 12**, Krishman teaches creating a copy of base OS file system (col. 4 lines 55 – col. 5 lines 5) and registry in the virtual OS environment file system and registry locations.

15. **As to claim 13**, Krishman teaches an application running under the virtual OS environment is executed using the copy in the virtual OS environment file system (col. 4 lines 55 – col. 5 lines 5).

16. **As to claims 14 - 15**, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that the injecting DLL method and techniques can be applied to different computing environment because the injecting DLL is portable and convenient to attach anywhere in the application as designed to redirect the execution without being modified the existing code.

Response to Arguments

17. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. The prior art made of record but not relied upon request is considered to be pertinent to applicant's disclosure.

Schaefer, US patent no. 7,028,305, demonstrating an operating system abstraction and protection layer.

Art Unit: 2194

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONG N. HOANG whose telephone number is (571)272-3763. The examiner can normally be reached on Monday - Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng A. An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

Ph
August 26, 2008